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EXAMINER

TSAI, TSUNG YIN

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2624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/757,552	Applicant(s) MARTELLO ET AL.	
	Examiner Tsung-Yin Tsai	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections – 35 USC 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 9-10, 13-14, 16-18, 21-22 and 24-26 are rejected under 35 U.S.C. 102(b) as being unpatentable over Inga et al (US Patent Number 5,321,520).

Inga et al teaches regarding a system (figure 1-6 disclose system for method) that carry out the method of system architecture for CAD processing:

(1) Regarding claim 1:

a receive interface (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface) coupled to said communication network (figure 1 part 21 discloses communication network, figure 3 part 44 discloses the network port where the local data modem connect to the communication network), the receive interface adapted to receive one or more input radiological images (figure 4 disclose the vast amount of images in storage for retrieval up on request) from said communication network (figure 1 part 21 discloses communication network, figure 3 part 44 discloses the network port where the local data modem connect to the communication network) and to pass them to said radiological image processing equipment (figure 1 disclose

image processing such as scanning and digitizing, compressing and alternate digitized image sources);

a transmit interface (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface) coupled to said communication network (figure 1 part 21 discloses communication network, figure 3 part 44 discloses the network port where the local data modem connect to the communication network), the transmit interface adapted to transmit processed radiological image information (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface, figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources for transmission over communication network for display) from said radiological image processing equipment (figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources) through said communication network (figure 1 part 21 discloses communication network, figure 3 part 44 discloses the network port where the local data modem connect to the communication network); and

control logic (column 14 lines 25-40 discloses control computer that coordinate the data flow from plurality of data) coupled to said receive interface (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface) and to said transmit interface (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface), and to said radiological image processing equipment

(figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources), the control logic adapted to coordinate operation (column 14 lines 25-40 discloses control computer that coordinate the data flow from plurality of data) of said receive interface (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface), said transmit interface (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface), and said radiological image processing equipment (figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources).

(2) Regarding claim 2:

an input buffer (figure 6 part 126 disclose input memory for data coming from the data communication modem) coupled to said receive interface (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface) and to said control logic (column 14 lines 25-40 discloses control computer that coordinate the data flow from plurality of data), the input buffer being adapted to store input radiological images (figure 1 part 16 discloses image data storage means for incoming and outgoing image data) received by said receive interface prior to passing them to said radiological image processing equipment (figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources).

(3) Regarding claim 3:

an image file format converter (column 5 lines 25-35 discloses image selecting, progressive imaging, resolution and run length coding, all these are seen as image file format converter, column 10 lines 10-20 discloses format converter of the alternate digitized image sources) adapted to receive input radiological images (figure 4 discloses the vast amount of images in storage for retrieval up on request) and to remove non-image information (column 2 lines 50-65 discloses extracting data regarding pixel of the image and store them in memory) from the input radiological images (figure 4 discloses the vast amount of images in storage for retrieval up on request) prior to passing the input radiological images to said radiological image processing equipment (figure 1 discloses image processing such as scanning and digitizing, compressing and alternate digitized image sources).

(4) Regarding claim 4:

at least one output buffer (figure 2 part 38 discloses data buffer memory before data communication modem) coupled to said transmit interface (figure 2 part 42 discloses data communication modem) and to said control logic (column 14 lines 25-40 discloses control computer that coordinate the data flow from plurality of data) and adapted to store (figure 2 part 38 discloses data buffer memory, which is seen as storing data) processed radiological image information (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface, figure 1 discloses image processing such as scanning and digitizing, compressing and alternate digitized image sources for

transmission over communication network for display) prior to transmitting the processed radiological image information (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface, figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources for transmission over communication network for display) through said communication network (figure 1 part 21 discloses communication network, figure 3 part 44 discloses the network port where the local data modem connect to the communication network).

(5) Regarding claim 5:

wherein said at least one output buffer (figure 2 part 38 discloses data buffer memory) comprises:

an overlay image buffer (column 4 lines 5-10 discloses where the film/image is interpreted by a draft of letter, OCR or standard marking, where the standard marking is seen as overlaying information onto the image for analysis, figure 2 part 38 as the data buffer before it is output); and

a burned-in image (column 10 lines 60-68 to column 11 lines 1-5 disclosing combining different information to one single CD, this is done with combining different data from different data source, sort them in a library/buffer and burn on to one CD, where this CD is seen as the burned-in image of all the data in one form) buffer.

(6) Regarding claim 6:

input control logic (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface, this is seen as an input control, column 15 lines 10-25 discloses controlling computer that coordinates the plurality of communication links and data retrieval and transmission) adapted to coordinate reception (column 15 lines 10-25 discloses controlling computer that coordinates the plurality of communication links and data retrieval and transmission) and initial processing of input radiological images (column 15 discloses coordinates the plurality of communication links and data retrieval); and

output control logic (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface) adapted to coordinate output processing (column 15 lines 10-25 discloses controlling computer that coordinates the plurality of communication links and data retrieval and transmission) and transmission (column 15 lines 10-25 discloses controlling computer that coordinates the transmission) of processed radiological image information (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface, figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources for transmission over communication network for display).

(7) Regarding claim 7:

wherein said control logic (column 14 lines 25-40 discloses control computer that coordinate the data flow from plurality of data) is further adapted to log information (column 11 lines 1-15 discloses internal computer that file log

regarding images of patients) about processing of radiological images (figure 3 part 58 discloses a local data modem, where a modem is a both a receive and transmitting interface, figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources for transmission over communication network for display).

(8) Regarding claim 9:

wherein said control logic (column 14 lines 25-40 discloses control computer that coordinate the data flow from plurality of data) is adapted to check parameters (figure 2 part 32 discloses alignment and sizing chamber from the inputter, the alignment and sizing are parameter checking) of said input radiological images (figure 4 disclose the vast amount of images in storage for retrieval up on request).

(9) Regarding claim 10:

one or more radiological image sources (figure 3 part 64-68 discloses image sources such as CAT, MRI or Video), each coupled to a communication network (figure 1 part 21 discloses communication network, figure 3 part 44 discloses the network port where the local data modem connect to the communication network) and adapted to transmit radiological images (figure 4 discloses the vast amount of images in storage for retrieval up on request) over said communication network;

the apparatus according to claim 1, also coupled to said communication network (figure 1 part 21 discloses communication network, figure 3 part 44

Art Unit: 2624

discloses the network port where the local data modem connect to the communication network); and

radiological image processing equipment (figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources) coupled to said apparatus.

(10) Regarding claims 13 and 25-26:

system (figures 1-6 discloses systems) carrying with computer read-able medium with program (column 2 lines 30-45 disclose programs carry out the methods);

buffering (figure 6 part 126 disclose input memory for data coming from the data communication modem) each input radiological image (figure 1 part 16 discloses image data storage means for incoming and outgoing image data) received from said communication network (figure 1 part 21 discloses communication network, figure 3 part 44 discloses the network port where the local data modem connect to the communication network) in an input buffer (figure 6 part 126 disclose input memory for data coming from the data communication modem);

converting a format (figure 2 lines 32 discloses alignment and sizing, these are seen as converting the format of the inputting data) of said input radiological image (figure 1 part 16 discloses image data storage means for incoming and outgoing image data) to create a reformatted radiological image

Art Unit: 2624

(figure 2 lines 32 discloses alignment and sizing, this is seen as reformatting of the image data);

providing said reformatted radiological image (figure 2 lines 32 discloses alignment and sizing, this is seen as reformatting of the image data, figure 3 part 62 disclose format convertor) to said radiological image processing equipment (figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources); and

buffering output (figure 2 part 38 discloses data buffer memory) from said radiological image processing equipment (figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources).

(11) Regarding claim 14:

removing non-image data (column 2 lines 50-65 discloses extracting data regarding pixel of the image and store them in memory, these data are not part of the image for display) from said input radiological image (figure 1 part 16 discloses image data storage means for incoming and outgoing image data).

(12) Regarding claim 16:

wherein said output from said radiological image processing equipment (figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources) comprises at least one of overlay output (column 4 lines 5-10 discloses where the film/image is interpreted by a draft of letter, OCR or standard marking, where the standard marking is

Art Unit: 2624

seen as overlaying information onto the image for analysis, figure 2 part 38 as the data buffer before it is output) and burned-in image output (column 10 lines 60-68 to column 11 lines 1-5 disclosing combining different information to one single CD, this is done with combining different data from different data source, sort them in a library/buffer and burn on to one CD, where this CD is seen as the burned-in image of all the data in one form), and

wherein said buffering output (figure 2 part 38 discloses data buffer memory) comprises buffering overlay output (figure 2 part 38 discloses data buffer memory, column 4 lines 5-10 discloses where the film/image is interpreted by a draft of letter, OCR or standard marking, where the standard marking is seen as overlaying information onto the image for analysis, figure 2 part 38 as the data buffer before it is output) in an overlay output buffer (figure 2 part 38 discloses data buffer memory, column 4 lines 5-10 discloses where the film/image is interpreted by a draft of letter, OCR or standard marking, where the standard marking is seen as overlaying information onto the image for analysis, figure 2 part 38 as the data buffer before it is output) and buffering burned-in image (column 10 lines 60-68 to column 11 lines 1-5 disclosing combining different information to one single CD, this is done with combining different data from different data source, sort them in a library/buffer and burn on to one CD, where this CD is seen as the burned-in image of all the data in one form) output in a burned-in image output buffer (figure 2 part 38 discloses data buffer memory, column 10 lines 60-68 to column 11 lines 1-5 disclosing combining different

information to one single CD, this is done with combining different data from different data source, sort them in a library/buffer and burn on to one CD, where this CD is seen as the burned-in image of all the data in one form).

(13) Regarding claim 17:

removing an input radiological image (figure 4 disclose the vast amount of images in storage for retrieval up on request) corresponding to buffered output (figure 2 part 38 discloses data buffer memory) from said radiological image processing equipment (figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources) from said input buffer (figure 6 part 126 disclose input memory for data coming from the data communication modem).

(14) Regarding claim 18:

transmitting (figure 3 part 58 discloses modem that function for transmitting as well) buffered output (figure 2 part 38 discloses data buffer memory) from said radiological image processing equipment (figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources) to at least one destination (figure 4 disclose the kind of destination where the image data are storage and awaiting requests to be retrieve); and

deleting (column 2 lines 1-15 discloses regarding deleting of the image) the buffered output (figure 2 part 38 discloses data buffer memory) that was transmitted after receiving at least one acknowledgment (column 2 lines 1-15

discloses timestamps, where timestamps is seen as acknowledgement) from said at least one destination (figure 4 disclose the kind of destination where the image data are storage and awaiting requests to be retrieve).

(16) Regarding claim 21:

checking said input buffer;

checking an output buffer in which said buffering output buffers said output;

resetting a file naming counter to zero if said input buffer and said output buffer are both empty; and

incrementing said file naming counter from a previous counter value if at least one of said input buffer and said output buffer is not empty.

(17) Regarding claim 22:

transmitting output (figure 2 disclose data communication modem for transmitting output) from said output buffer (figure 2 part 27 discloses the part of buffering for out going data) if said output buffer (figure 2 part 27 discloses the part of buffering for out going data) is not empty (column 11 lines 1-15 discloses an internal computer that maintain file log of empty space); and

processing contents (figure 1 part 18 discloses compression, this is seen as processed content, figure 2 par 32 discloses alignment and sizing, this is seen as processed content) of said input buffer (figure 6 part 126 disclose input memory for data coming from the data communication modem) if said input buffer (figure 6 part 126 disclose input memory for data coming from the data

Art Unit: 2624

communication modem) is not empty (column 11 lines 1-15 discloses an internal computer that maintain file log of empty space).

(18) Regarding claim 24:

transmitting over said communication network (figure 1 part 21 discloses communication network, figure 3 part 44 discloses the network port where the local data modem connect to the communication network) at least one radiological image (figure 4 disclose the vast amount of images in storage for retrieval up on request) from an image source (figure 3 part 64-68 disclose the sources of radiological image such as CAT, MRI and VIDEO) to a processing apparatus (figure 3 part 62 discloses format convertor, this is seen as image processing) implementing the method according to claim 13;

and transmitting, from said processing apparatus (figure 3 part 62 discloses format convertor, this is seen as image processing) to at least one destination (figure 4 part 16 discloses the kind of destination where the image can be stored) over said communication network (figure 1 part 21 discloses communication network, figure 3 part 44 discloses the network port where the local data modem connect to the communication network), output from said radiological image processing equipment (figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources) buffered (figure 2 part 38 discloses data buffer memory) during said buffering output (figure 2 part 27 discloses the part of buffering for out going data).

Claim Rejections – 35 USC 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inga et al (US Patent Number 5,321,520) in view of Kondo et al (US Patent Number 6,263,108 B1).

(8) Regarding claim 8 and 19:

Inga et al teaches regarding the following subject matter:

logging (column 11 lines 1-15 discloses internal computer that file log regarding images of patients) at least one of status (column 2 lines 50-65 discloses time sequence, this is seen as timestamp for status of the image) and error data;

at least one input buffer (figure 6 part 126 disclose input memory for data coming from the data communication modem); and

at least one output buffer (figure 2 part 38 discloses data buffer memory);
and

wherein said control logic (column 14 lines 25-40 discloses control computer that coordinate the data flow from plurality of data) comprises error recovery logic coupled to said input and output buffers (figure 6 part 126 disclose

input memory for data coming from the data communication modem, figure 2 part 38 discloses data buffer memory) and adapted to check contents of said input and output buffers and to base recovery at least in part on said contents of at least one of said input and output buffers (figure 6 part 126 disclose input memory for data coming from the data communication modem, figure 2 part 38 discloses data buffer memory).

Inga et al does not teach regarding error recovery logic and content in buffer.

However, Kondo et al teaches regarding error recovery logic (column 13 lines 45-65 discloses error recovery function on transmission data) and content in buffer (column 13 lines 45-65 discloses regarding have last frames in the buffer).

It would have been obvious to one skill in the art at the time of the invention to employ Kondo et al teachings to Inga et al regarding error recovery using content still in the buffer. Frame data in the buffer will contain sequencing data that hopefully can predict and correct data that are deem corrupt.

The motivation to combine regarding error recovery due to that buffer limit is know from the beginning to end with know fixed buffer length (column 13 lines 50-65). This will enable better data processing and prediction for error recovery.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inga et al (US Patent Number 5,321,520) in view of Groezinger (US Patent Number 6,101,407).

(1) Regarding claim 11:

Inga et al teaches regarding communication network (figure 1 part 21 discloses communication network, figure 3 part 44 discloses the network port where the local data modem connect to the communication network).

Inga et al does not teach regarding DICOM standard protocols.

However, Groezinger teaches regarding DICOM standard protocols (column 5 lines 65-68 to column 6 lines 1-5 discloses the standard DICOM protocols develop by ACR and NEMA).

It would have been obvious to one skill in the art at the time of the invention to employ Groezinger teachings to Inga et al regarding DICOM standard protocols.

The motivation regarding combining teaches due to that DICOM standard protocols is a well establish and accept standards for medical images.

6. Claims 12 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inga et al (US Patent Number 5,321,520) in view of Maltz et al (US Patent Number 6,031,929).

(1) Regarding claim 12 and 23:

Inga et al teaches regarding radiological image processing equipment (figure 1 disclose image processing such as scanning and digitizing, compressing and alternate digitized image sources).

Inga et al does not teach regarding a computer-aided detection (CAD) processor.

However, Maltz et al teaches regarding a computer-aided detection (CAD) processor (column 4 lines 20-30).

It would have been obvious to one skill in the art at the time of the invention to employ Maltz et al teachings to Inga et al regarding computer-aided detection (CAD) processor for further image processing assisting the user's requirement.

The motivation to combine regarding computer-aided detection (CAD) processor will assist the user image processing on region of interest of the image (column 4 lines 15-30), thus, greater detail due to the assisting of CAD processing (column 4 lines 15-30).

7. Claim 15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inga et al (US Patent Number 5,321,520) in view of Hazama et al (US Patent Number 5,864,482).

(1) Regarding claims 15 and 20:

Inga et al teaches regarding input radiological image (figure 1 part 16 discloses image data storage means for incoming and outgoing image data);

assigning a file name to a file representing an input radiological image (figure 1 part 16 discloses image data storage means for incoming and outgoing image data) based on at least one of a counter (column 2 lines 55-60 discloses time sequence image, where time sequence is seen as a counter) and an image type (column 5 lines 25-35 discloses image selecting, progressive imaging,

Art Unit: 2624

resolution and run length coding, all these are seen as image file format converter for image to another image type, column 10 lines 10-20 discloses format converter of the alternate digitized image sources).

Inga et al does not teach regarding renaming a file or a file name.

However, Hazama et al teaches regarding renaming a file (column 23 lines 25-30).

It would have been obvious to one skill in the art at the time of the invention to employ Hazama et al teachings to Inga et al regarding renaming a file of incoming images.

The motivation to combine regarding renaming a file of incoming images such as renaming it with a timestamp will enable the user to know when and how the images are sequence during imaging or processing.

Conclusion

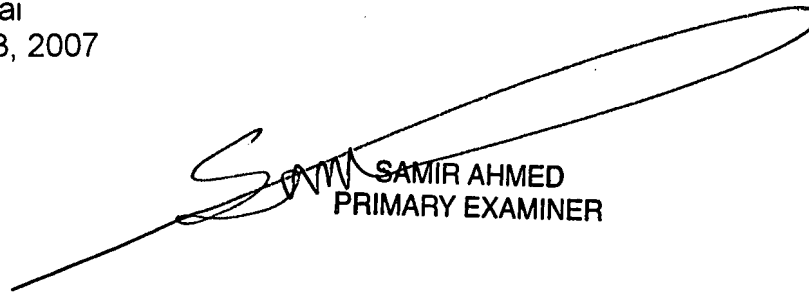
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tsung-Yin Tsai whose telephone number is (571) 270-1671. The examiner can normally be reached on Monday - Friday 8 am - 5 pm ESP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tsung-Yin Tsai
September 13, 2007



SAMIR AHMED
PRIMARY EXAMINER